CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 77-102

WASTEWATER RECLAMATION REQUIREMENTS FOR:

SANTA CLARA VALLEY WATER DISTRICT AND
THE CITY OF PALO ALTO
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

1. Santa Clara Valley Water District and the City of Palo Alto submitted a report of waste discharge dated April 6, 1977.

2. The City of Palo Alto proposes to divert up to 0.8 million gallons per day of treated effluent from Santa Clara Valley Water District's Reclamation Facility in Palo Alto for the purpose of landscape irrigation by means of fixed sprinkler systems at Palo Alto Municipal Golf Course, Bay Lands Athletic Center, Rinconada Park, Palo Alto Cultural Center, and Greer Park. The approximate locations are shown in Attachment "A" which is hereby made part of this Order.

3. Santa Clara Valley Water District and the City of Palo Alto will negotiate an agreement as to responsibilities for treatment and use of reclaimed wastewater.

4. Section 13523 of the California Water Code provides that a regional board, after consulting with and receiving the recommendations of the State Department of Public Health, and if it determines such action to be necessary to protect the public health, safety, or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water. The use of reclaimed water for the purposes specified in Paragraph 2, could affect the public health, safety, or welfare, and requirements for those uses are therefore necessary in accordance with the Water Code.

5. The Board adopted a Water Quality Control Plan for San Francisco Bay Basin in April, 1975. The water quality objectives for reclaimed wastewater, as set forth in the Basin Plan, specify those limits prescribed in Title 17, Section 8025 through 8050, California Administrative Code. These objectives have been superseded by Title 22, Sections 60301 - 60357, California Administrative Code (statewide reclamation criteria).

6. The wastewater reclamation requirements are in conformance with the statewide reclamation criteria established by the State Department of Health.

7. The proposed use of reclaimed wastewater involves a minor alteration to land and as such is exempt from the provisions of the Environmental Quality Act of 1970 as a Class 4 exemption pursuant to Section 15104 of the California Administrative Code (State EIR Guidelines). The project will not have a significant effect on the environment.

8. This Regional Board has notified Santa Clara Valley Water District the City of Palo Alto, and interested agencies and persons of its intent to prescribe water reclamation requirements for the proposed uses.

9. This Board at a public meeting heard and considered all comments pertaining to this reuse.

IT IS HEREBY ORDERED, that the City of Palo Alto and Santa Clara Valley Water District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Reclaimed Wastewater Use Specifications

1. The treatment, distribution or reuse of reclaimed water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The reclaimed water shall be at all times an adequately disinfected, oxidized water and shall meet the following quality limits at all times:

5-day BOD	40.0 mg/l maximum
Dissolved Oxygen	1.0 mg/l, minimum
Dissolved Sulfide	0.1 mg/l, maximum
Coliform Organisms	Median MPN shall not exceed twenty-three (23) coliform organisms per 100 milliliters of sample at some point in the treatment process. The median value will be determined from the bacteriological results of the last seven (7) analyses.

3. All above ground equipment, including pumps, piping and valves, etc., which may at any time contain waste shall be adequately and clearly identified with warning signs and user shall make all necessary provisions, in addition, to inform the public that the liquid contained is sewage and is unfit for human consumption.

B. Reclaimed Wastewater Use Prohibitions

1. No wastewater shall be applied to the disposal area during periods of rainfall or when soils are saturated.

2. No reclaimed wastewater used for irrigation shall be allowed to escape to the pond within Palo Alto Municipal Golf Course or to areas outside the irrigation areas, either by surface flow or airborne spray, except for minor quantities occurring as a result of normal irrigation practice.

3. On-site storage of reclaimed wastewater is prohibited.

4. Wastewater shall not be applied to disposal areas in such a manner or at such times as to expose golfers or other individuals to contact with spray droplets.

5. No reclaimed wastewater used for irrigation shall be applied closer than 50 feet from picnic tables and other food and drinking water outlets.

C. Provisions

1. This Order includes items 1, 2, 3, 4, 5, 7, 8, 9, and 10 of the attached "Requirements of Design for Reclamation Facilities" dated October 1, 1975.

2. The user shall file with the Regional Board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.

3. At least 30 days prior to the use of reclaimed wastewater, the discharger shall submit a report, satisfactory to the Executive Officer, describing the irrigation system design and operation to minimize any public contact with reclaimed waster.

4. The user shall permit the Regional Board or its authorized representative:

   a. Entry upon premises in which an effluent source is located or in which any required records are kept.

   b. Access to copy any records required to be kept under terms and conditions of this Order.

   c. Inspection of any monitoring equipment or method required by this Order.

   d. Sampling of any discharge.

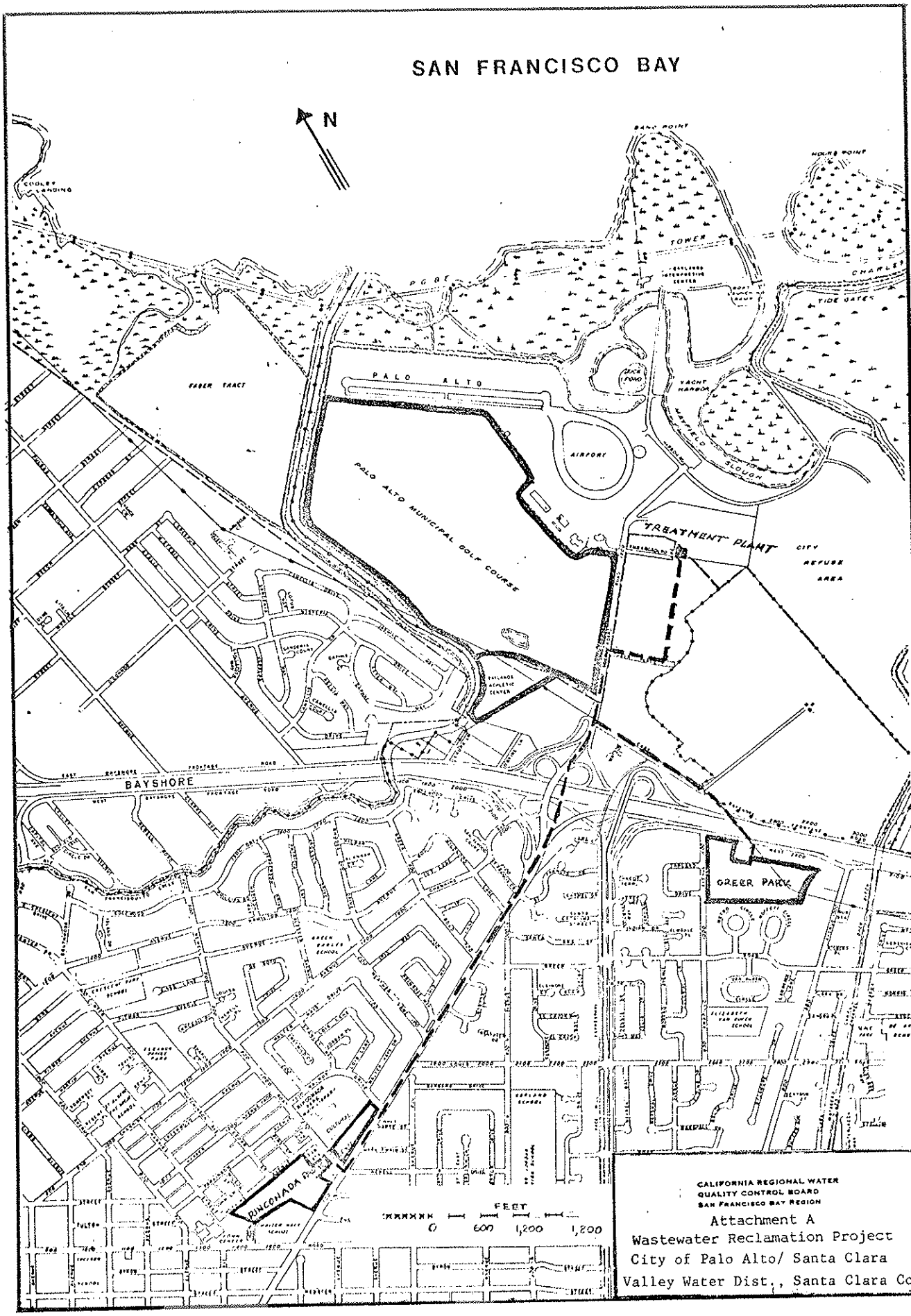
5. The user shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the user to achieve compliance with the water reclamation requirements.

6. The user shall file with the Regional Board a report on waste discharge at least 180 days before making any material change or proposed change in the character, location, or volume of reuse.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 19, 1977.

FRED H. DIERKER
Executive Officer

Attachments:
A - Map
Requirements of Design for
Reclamation Facilities
dated 10/1/75
Self-Monitoring Program



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Attachment A
Wastewater Reclamation Project
City of Palo Alto/ Santa Clara Valley Water Dist., Santa Clara Co.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

OCTOBER 1, 1975

REQUIREMENTS OF DESIGN FOR RECLAMATION FACILITIES

1. Flexibility of Design. The design of process piping, equipment arrangement, and unit structures in the reclamation plant must allow for efficiency and convenience in operation and maintenance and provide flexibility of operation to permit the highest possible degree of treatment to be obtained under varying circumstances.

2. Emergency Storage or Disposal. (a) Where short-term retention or disposal provisions are used as a reliability feature, these shall consist of facilities reserved for the purpose of storing or disposing of untreated or partially treated wastewater for at least a 24-hour period. The facilities shall include all the necessary diversion devises, provisions for odor control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.

(b) Where long-term storage or disposal provisions are used as a reliability feature, these shall consist of ponds, reservoirs, percolation areas, downstream sewers leading to other treatment or disposal facilities or any other facilities reserved for the purpose of emergency storage or disposal of untreated or partially treated wastewater. These facilities shall be of sufficient capacity to provide disposal or storage of wastewater for at least 20 days, and shall include all the necessary diversion works, provisions for odor and nuisance control, conduits, and pumping and pump back equipment. All of the equipment other than the pump back equipment shall be either independent of the normal power supply or provided with a standby power source.

(c) Diversion to a less demanding reuse is an acceptable alternative to emergency disposal of partially treated wastewater provided that the quality of the partially treated wastewater is suitable for the less demanding reuse.

(d) Subject to prior approval by the regulatory agency, diversion to a discharge point which requires lesser quality of wastewater is an acceptable alternative to emergency disposal of partially treated wastewater.

(e) Automatically actuated short-term retention or disposal provisions and automatically actuated long-term storage or disposal provisions shall include, in addition to provisions of (a), (b), (c), or (d) of this section, all the necessary sensors, instruments, valves and other devices to enable fully automatic diversion of untreated or partially treated wastewater to approved emergency storage or disposal in the event of failure of a treatment process, and a manual reset to prevent automatic restart until the failure is corrected.

(2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provision, or

(5) Alarm and standby coagulation process.

7. Filtration. All filtration unit processes shall be provides with one of the following reliability features:

(a) Alarm and multiple filter units capable of treating the entire flow with one unit not in operation.

(b) Alarm, short-term retention or disposal provisions and standby replacement equipment.

(c) Alarm and long-term storage or disposal provisions.

(d) Automatically actuated long-term storage or disposal provisions.

(e) Alarm and standby filtration unit process.

8. Disinfection.

(a) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with the following features for uninterrupted chlorine feed:

(1) Standby chlorine supply,

(2) Manifold systems to connect chlorine cylinders

(3) Chlorine scales, and

(4) Automatic devices for switching to full chlorine cylinders.

Automatic residual control of chlorine dosage, automatic measuring and recording of chlorine residual, and hydraulic performance studies may also be required.

(b) All disinfection unit processes where chlorine is used as the disinfectant shall be provided with one of the following reliability features:

(1) Alarm and standby chlorinator;

(2) Alarm, short-term retention or disposal provisions, and standby replacement equipment;

(3) Alarm and long-term storage or disposal provisions;

(4) Automatically actuated long-term storage or disposal provisions; or

(5) Alarm and multiple point chlorination, each with independent power source, separate chlorinator, and separate chlorine supply.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Santa Clara Valley Water District

and the City of Palo Alto

Reclaimed Wastewater Irrigation Project

ORDER NO. 77-102

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSES AND OBSERVATIONS

Analyses, observations, and examinations shall be performed according to the specifications shown in Table I.

A. EFFLUENT

Station	Description
E-001	At any point in the outfall from the reclamation facilities between the point of reuse and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.

B. LAND OBSERVATIONS

Station	Description
L-1 thru L-'n'	Located along the periphery of the irrigation areas at equidistant intervals, not to exceed 500 feet.

II. MISCELLANEOUS REPORTING

A. The discharger shall phone the Executive Officer immediately upon detecting a violation of any reclaimed water use specifications or prohibitions.

B. The discharger shall submit with the first required monitoring report, adequate documentation that all equipment is adequately marked as required. Such documentation shall include, but not be limited to photographs and certification of compliance.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in the Regional Board Order No. 77-102.

2. Has been ordered by the Executive Officer on July 19, 1977, and becomes effective upon commencement of operation.

3. May be reviewed at any time subsequent to the effective date upon written notice from either the Executive Officer or the discharger, and will be revised upon written agreement of the Executive Officer and the discharger.

FRED H. DIERKER
Executive Officer

Attachment:
Table I

TABLE I 2/

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001		E-001-D		L								
TYPE OF SAMPLE	Grab		Grab		Observation								
Flow Rate (mgd)	D												
BOD, 5-day, 20° C (mg/l)	W												
Chlorine Residual & Dosage (mg/l)			D										
Settleable Matter (ml/1-hr.)	2/M												
Total Suspended Matter (mg/l)	2/M												
Oil & Grease (mg/l)	2/M												
Coliform (Total) (MPN/100 ml) per req't			D										
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste													
Ammonia Nitrogen (mg/l)	2/Y												
Nitrate Nitrogen (mg/l)	2/Y												
Nitrite Nitrogen (mg/l)	2/Y												
Total Organic Nitrogen (mg/l)	2/Y												
Total Phosphate (mg/l)	2/Y												
Turbidity (Jackson Turbidity Units)													
pH (units)	2/M												
Dissolved Oxygen (mg/l)	W												
Temperature (°C)													
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO ≤ 2.0 mg/l) Total & Dissolved (mg/l)	W												
Chromium, Total (mg/l)													
Copper (mg/l)													
Cyanide (mg/l)													
Silver (mg/l)													
Lead (mg/l)													

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001		E-001-D		L								
TYPE OF SAMPLE	Grab		Grab		Observation								
Mercury (mg/l)													
Nickel (mg/l)													
Zinc (mg/l)													
PHENOLIC COMPOUNDS (mg/l)													
All Applicable (1) Standard Observations					W								
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)													

(1) Observations shall include evidence of seepage outside irrigation area.
(2) Samples are required to be taken only on days any reclaimed wastewater is being diverted for reuse.

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-integrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwater stations

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous